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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CLEVELAND, MICHAEL B

ART UNIT	PAPER NUMBER
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1762

23

DATE MAILED: 11/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/512,669

Applicant(s)

JECK-PROSCH ET AL.

Examiner

Michael Cleveland

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 43-59 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 57-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 43-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. This application contains claims 1-9 and 57-59 drawn to an invention nonelected without traverse in Paper No. 4. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 44, 47-50, 53, and 55-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 44: The phrases "said granules of a mono-, di-, and tri-basic propellant" and "said mono-, di-, and tri-basic propellant" are unclear because it does not appear that a propellant can be monobasic, dibasic, and tribasic. For purposes of applying art, the Examiner treated the claims as stating "mono-, di-, or tri-basic", as in the first clause and recommends so amending the claims.

Claim 44: It is unclear whether the providing step is in addition to that of parent claim 43 or whether a single providing step meets the limitation of both claims. The claim has been treated as inclusive of the latter possibility. It is unclear whether the "at least one polymer" is inclusive of the polymers of claim 43. It has been treated as inclusive of separate or simultaneous surface-treating with one reagent chosen from the list on claim 43 and another from the list of claim 44 as well as a single surface-treatment step with a species that is listed in both claims.

Claim 47: It is unclear whether the "at least one polymer" is inclusive of the polymers of claim 43.. It has been treated as inclusive of separate or simultaneous surface-treating with one reagent chosen from the list on claim 43 and another from the list of claim 47 as well as a single surface-treatment step with a species that is listed in both claims.

Art Unit: 1762

Claims 48-50: The claims are unclear because the term "the energetic softener" lacks antecedent basis. Claim 48 has been treated as requiring surface treatment with any of the listed reagents. It has also been treated as inclusive of separate or simultaneous surface-treating with one reagent chosen from the list on claim 43 and another from the list of claim 48 (or 49 or 50) as well as a single surface-treatment step with a species that is listed in both claims.

Claims 53 and 56: In claim 53, the phrase "the two of at least one reagent" lacks proper antecedent basis. Based on the interview, it appears that applicant may have intended the claim to read, for example, "...wherein [at least] two of said at least one reagents are applied either as a mixture or by a two-stage consecutive treatment." The claim has been treated as including such an interpretation. In claim 56, the term "each of said reagent" is unclear because of the lack of clarity of parent claim 53.

Claim 55: The term "each of said reagent" is unclear because parent claim 51 only requires one reagent.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 43, 45, 47-48, 50-51, and 53-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Willer et al. (U.S. Patent 5,801,325, hereafter '325).

Claims 43, 47, 51, and 53: '325 teaches compositions of solid propellants dispersed in binders, such as hydroxy-terminated polybutadiene and glycidyl azide polymer (col. 6, line 60-col. 7, line 20). It appears that the formulations must have been made by a mixing (i.e. surface-treating) process, such as the one described using PGN (col. 3, lines 10-24; col. 5, line 64-col. 6, line 2; col. 8, lines 36-52).

Claim 45: The propellant may be HMX or RDX (octogen or hexogen) (col. 5, line 64-col. 6, line 2). (See Menke et al., U.S. Patent 5,596,168, col. 1, lines 13-20, which teaches that HMX and RDX are octogen and hexogen, respectively.)

Art Unit: 1762

Claims 48 and 50: Nitroglycerin (a nitric acid ester which Applicant has specified as an energetic, monomer softener in originally filed claim 18) may be added simultaneously with the addition of the polymer (to treat a monobasic propellant) (col. 5, lines 43-55).

Claims 54-56: The propellant is dispersed in the binder, and therefore the binder must coat the propellant.

6. Claims 43, 45-51, and 54-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Lutz (U.S. Patent 5,520,757, hereafter '757).

Claims 43, 45, 48, and 51: '757 teaches mixing (i.e., surface treating) nitrocellulose (a monobasic propellant powder in colloidal form (i.e., an emulsion)) with alkyl nitrato ethyl nitramines (alkyl NENAs) (col. 3, lines 11-29).

Claims 46 and 50: The mixing composition may also include nitroglycerin (col. 2, line 65- col. 3, line 10).

Claim 47: The alkyl NENA may be methyl NENA (col. 2, lines 51-64).

Claims 54-55: Because the product is an admixture of the propellant with the alkyl NENA, the alkyl NENA must contact the propellant, and in the broadest reasonable sense of the term, coat it.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 43-46 and 48-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Meara et al. (U.S. Patent 5,682,009, hereafter '009) in view of Lutz (U.S. Patent 5,520,757, hereafter '757).

Claims 43, 48-50, and 53: Also, '009 teaches providing a monobasic propellant (col. 2, lines 54-64), mixing (i.e., surface treating with) a propellant powder in slurry with nitroglycerin,

Art Unit: 1762

an energetic, monomer softener (col. 5, lines 1-12), mixing (i.e., surface treating with) at least one inert polymer (col. 5, lines 13-37), such as the cellulose esters listed in col. 4, lines 1-60, and drying the propellant (col. 5, lines 37-40) to recover particles treated with the reagent (col. 6, lines 36-48).

'009 teaches adding nitroglycerin to a nitrocellulose to form a double base propellant powder, as described above. It does not teach adding an alkyl nitratoethyl nitramine (NENA). However, '757 teaches alkyl NENAs as advantageous replacements for nitroglycerin for the reasons given in col. 1, lines 15-54. The alkyl NENAs include compounds such as methyl NENA (col. 2, lines 51-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the nitroglycerin of '009 with the methyl NENA of '757 in order to have achieved the resistance to crystallization described in col. 1, lines 15-54 of '757 with a reasonable expectation of success.

Claim 44: The inert polymer may be a cellulose ester (col. 4).

Claims 45-46: The propellant may include nitrocellulose (col. 1, lines 19-28) and nitroglycerin (col. 5, lines 8-10).

Claims 51-52: The mixing is performed by applying the polymer in an aqueous solution (col. 5, lines 13-22) and heating the solution over time and allowing the polymer to penetrate into the propellant grains (i.e., by incubating in an impregnating solution).

Claims 54-56: Because both the nitroglycerin and the deterrent diffuse into the propellant base, and therefore contact it, both are considered to be coatings in the broadest reasonable sense of the term.

### *Response to Arguments*

9. Applicant's arguments filed 9/23/2002 have been fully considered but they are not persuasive.

Applicant's remarks regarding the claim amendments are noted but are not clear. Applicant asserts that claim 43 does not contain polymers, but the first six species are polymers. Further, Applicant implies that claim 44 has been amended, but it has not. The examiner has treated the text of the most recent clean version of each claim as being correct.

Art Unit: 1762

The rejections under 35 USC 102(b) over '009 and '837 are dropped because of Applicant's amendment. However, the rejection under 35 USC 103 over '009 in view of Lutz '757 is maintained. Also, new rejections under 35 USC 102(b) have been applied because claim 43 has been broadened.

Applicant appears to argue unexpected results of the claimed invention at pp. 5-6 of the response. These arguments are unconvincing because they are unsupported by a showing of evidence, and because they are not commensurate in scope with the claims.

Applicant's argument that '757 cannot be combined with '009 because the receptors in '757 are combined with the nitroglycerin of '009 is not clear. The examiner's position is that '757 clearly teaches that alkyl NENAs are replacements for nitroglycerin (col. 1, lines 38-39). However, regarding claim 50, it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose" *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). See MPEP 2144.06.

Applicant's arguments regarding cellulose are unconvincing because they are unsupported by evidence and because they are not commensurate in scope with the claims because the claims do not exclude cellulose.

### *Conclusion*

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1762

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (703) 308-2331. The examiner can normally be reached on 8-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 306-3186 for regular communications and (703) 306-3186 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*MBC*

MBC

November 19, 2002



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